

We claim:

1. An isolated or purified polynucleotide comprising a nucleotide sequence which encodes a human endosulfine and fragments or compliments thereof.

2. The polynucleotide of Claim 1 wherein said nucleotide is SEQ ID NO:1.

3. The polynucleotide of Claim 1 wherein said nucleotide is SEQ ID NO:2.

4. The polynucleotide of Claim 1 wherein said nucleotide is SEQ ID NO:1 from about nucleotide position 107 to about nucleotide position 460.

5. The polynucleotide of Claim 1 wherein said nucleotide is SEQ ID NO:2 from about nucleotide position 107 to about nucleotide position 472.

6. The human endosulfine of Claim 1 wherein said nucleotide sequence encodes an amino acid sequence SEQ ID NO:3 or fragments thereof.

7. The human endosulfine of Claim 1 wherein said nucleotide sequence encodes an amino acid sequence SEQ ID NO:4 or fragments thereof.

8. A recombinant expression vector comprising the polynucleotide of Claim 1.

9. A recombinant expression vector comprising the polynucleotide of Claim 4.

10. A recombinant expression vector comprising the polynucleotide of Claim 5.

11. The expression vector of Claim 8 selected from the group consisting of pProEx1 and pcDNA3.1.

12. The expression vector of Claim 9 selected from the group consisting of pProEx1 and pcDNA3.1.

13. The expression vector of Claim 10 selected from the group consisting of pProEx1 and pcDNA3.1.

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buta2

14. A host cell transformed with the expression vector of Claim 8.

15. The host cell of Claim 14 wherein said host cell is a prokaryotic cell or eukaryotic cell.

16. A host cell transformed with the expression vector of Claim 9.

17. The host cell of Claim 16 wherein said host cell is a prokaryotic cell or eukaryotic cell.

18. A host cell transformed with the expression vector of Claim 10.

19. The host cell of Claim 18 wherein said host cell is a prokaryotic cell or eukaryotic cell.

20. An isolated or purified polypeptide of human endosulfine.

21. The polypeptide of Claim 20 having the sequence of SEQ ID NO:3 or fragments thereof.

22. The polypeptide of Claim 20 having the sequence of SEQ ID NO:4 or fragments thereof.

23. A method for producing a polypeptide containing at least one human endosulfine epitope comprising incubating host cells transformed with an expression vector wherein said expression vector comprises a nucleotide sequence which encodes a human endosulfine.

24. The method of Claim 23 wherein said nucleotide sequence which encodes a human endosulfine has the sequence SEQ ID NO:2 and fragments and compliments thereof.

25. The method of Claim 24 wherein said nucleotide sequence which encodes a human endosulfine has the sequence SEQ ID NO:2 from about nucleotide position 107 to about nucleotide position 472.

26. The method of Claim 23 wherein said nucleotide sequence encodes a human endosulfine having the sequence SEQ ID NO:3.

27. The method of Claim 23 wherein said nucleotide sequence encodes a human endosulfine having the sequence SEQ ID NO:4.

28. The method of Claim 23 wherein said nucleotide sequence which encodes a human endosulfine has the sequence SEQ ID NO:2.

29. The method of Claim 23 wherein said nucleotide sequence which encodes a human endosulfine has the sequence SEQ ID NO:2 from about nucleotide position 107 to about nucleotide position 472.

30. A method for identifying compounds that modulate endosulfine receptor activity, comprising:

- (a) providing a host cell that expresses said endosulfine receptor polypeptide;
- (b) mixing a test compound with said cell; and
- (c) measuring either
 - (i) the effect of the test compound on the cell expressing the receptor, or
 - (ii) the binding of the test compound to the cell or to the receptor.

31. The method of claim 30, wherein said host cell is either a prokaryotic or eukaryotic cell.

32. The method of claim 30, wherein said measurement of step (c) (ii) is performed by measuring a signal generated by a signal generating compound.

33. The method of claim 30, wherein the measurement of step (c) (ii) is performed by measuring a signal generated by a radiolabeled ion, a fluorescent probe or an electrical current.

34. A method for identifying a cytoprotective compound, comprising:

- (a) providing a cell that expresses an endosulfine polypeptide or fragment thereof;
- (b) combining a test compound with the cell; and
- (c) monitoring the cell or cellular function for an indication of cytotoxicity.

35. The method of claim 34 wherein said cell is either a prokaryotic or eukaryotic cell.

15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140 145 150 155 160 165 170 175 180 185 190 195 200 205 210 215 220 225 230 235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335 340 345 350 355 360 365 370 375 380 385 390 395 400 405 410 415 420 425 430 435 440 445 450 455 460 465 470 475 480 485 490 495 500 505 510 515 520 525 530 535 540 545 550 555 560 565 570 575 580 585 590 595 600 605 610 615 620 625 630 635 640 645 650 655 660 665 670 675 680 685 690 695 700 705 710 715 720 725 730 735 740 745 750 755 760 765 770 775 780 785 790 795 800 805 810 815 820 825 830 835 840 845 850 855 860 865 870 875 880 885 890 895 900 905 910 915 920 925 930 935 940 945 950 955 960 965 970 975 980 985 990 995

36. The method of claim 35, wherein said cell comprises an expression vector comprising the polynucleotide of claim 5 operably linked to control sequences that direct the transcription of the polynucleotide whereby the polynucleotide is expressed in a host cell.

5 37. The method of claim 36, wherein at least one of the control sequences comprises an inducible promotor.

10 38. The method of claim 37, wherein said cell is maintained in the presence of a substance such as to minimize or block a cytotoxic effect on said cell.

15 39. A method of treating an individual having a condition associated with endosulfine modulation, comprising administering to said individual an effective amount of a compound that controls the gene expression of endosulfine, in a pharmaceutically acceptable excipient.

40. A monoclonal antibody which specifically binds to human endosulfine having amino acid sequence SEQ ID NO:4 or fragments thereof.

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